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Introduction

Over the past half century, much of Arizona's water demand has been met through groundwater pumping. This pumping has resulted in significant groundwater level declines and land subsidence in some areas. While farms have historically been the predominant water users, rapid growth in Arizona's urban areas has increased municipal water use.

Arizona's Assured Water Supply (AWS) Program is designed to preserve groundwater resources and promote long-term water supply planning. This is accomplished through regulations that limit the use of groundwater by new subdivisions that require a "Certificate" of AWS and by "Designated" Water Providers that have demonstrated an AWS for their entire service area.

The AWS Program also provides consumer protection by requiring developers to demonstrate that sufficient water supplies are available for new subdivisions prior to sale.

History of the Assured Water Supply Program

The AWS Program has evolved since its inception, as new legislation and rules were adopted. The program has become more proactive in its role of assuring availability of water to all users. The evolution and intent of the AWS Program are described in this section.

1973 Water Adequacy Statute

In the 1960s and early 1970s, subdivided lots were sometimes marketed to buyers who were unaware that the developer had not secured water supplies for the subdivision.

In 1973, the State Legislature enacted a statewide water adequacy statute to address this practice. Under this law, a developer was required to obtain a determination from the State regarding the availability of water supplies prior to marketing the lots. If the supply of water was determined to be "inadequate," the developer was required to disclose this fact in promotional materials and in sales documents.

This law has been superseded in Arizona's Active Management Areas (AMAs) by the Assured Water Supply (AWS) provisions of the 1980 Groundwater Code (also referred to as "the Code").

The 1973 water adequacy law continues to apply to land outside of the State's Active Management Areas and to certain large lot land divisions within the Active Management Areas ("unsubdivided" land). The Adequate Water Supply program is discussed in a companion publication.

1980 Groundwater Code and Assured Water Supply Program

Groundwater depletion in certain regions of the State led to the passage of Arizona's Groundwater Code in 1980. The Code established "Active Management Areas" in these areas of severe groundwater depletion and prescribes comprehensive groundwater management measures. AMAs include the State's major metropolitan and farming areas within Maricopa, Pinal, Pima, Santa Cruz, and Yavapai Counties (see Figure 1).

Figure 1 Active Management Areas

Safe-yield is the long-term balancing of groundwater withdrawals with the amount of water naturally and artificially recharged to AMA aquifers.

The Groundwater Code establishes groundwater management goals for each AMA. All five AMAs have water management goals related to a reduction in groundwater use. (See page 6, Consistency with Management Goal (A.A.C. R12-15-705)). The goal for the Phoenix, Tucson, and Prescott AMAs involves attaining "safe-yield" by the year 2025. Safe-yield is the long-term balancing of groundwater withdrawals with the amount of water naturally and artificially recharged to AMA aquifers. The Pinal AMA goal is to preserve existing agricultural economies for as long as feasible, while preserving future water supplies for non-irrigation uses. The Santa Cruz AMA goal is to maintain a safe-yield condition and to prevent long-term local water table declines. The AWS program is a key tool designed to assist in the achievement of these goals.

The basic AWS criteria contained in the 1980 Code require that new subdivisions and water providers designated as having an AWS demonstrate that there is sufficient water of adequate quality available for at least 100 years. It also required that the proposed use of water is consistent with the management plan and management goal for the AMA, and that finances are available to construct the water infrastructure. The 1980 Code provisions go beyond the notification requirements of the 1973 statute by prohibiting the sale or lease of subdivided land in an AMA if an AWS cannot be demonstrated.

1995 Assured and Adequate Water Supply Rules

In 1991, ADWR began developing formal administrative rules for meeting the statutory criteria. The effort, which involved considerable public input, culminated in the adoption of the Assured and Adequate Water Supply Rules in February 1995.

To demonstrate an AWS, an applicant for a Certificate or a Designation of AWS must meet the five statutory criteria as further defined in the rules. These criteria and the associated rule citations are as follows:

1. Physical, legal and continuous availability of the water supply for 100 years (A.A.C. R12-15-703).
2. Sufficient quality of the water supply (A.A.C. R12-15-704).
3. Water use must be consistent with the management goal of the AMA (A.A.C. R12-15-705).
4. Water use must be consistent with the management plan of the AMA (A.A.C. R12-15-706).
5. Financial capability to construct any necessary water storage, treatment and delivery systems (A.A.C. R12-15-707).

While these basic criteria have been in effect since 1980, the 1995 AWS Rules strengthen the consistency with management goal component significantly. Prior to 1995 the Department's implementation of the AWS statute did not sufficiently address the management goals of the AMAs since it allowed for continued groundwater pumping.

To meet this criterion, applicants must now demonstrate the use of renewable water supplies, rather than groundwater, in amounts sufficient to meet most of the demand of the development for 100 years. Renewable supplies include surface water, Central Arizona Project (CAP) water, and effluent. The 1995 Rules also simplified the financial capability requirements, established standards for the use of renewable sources of water, and raised the physical availability depth-to-water standard from 1,200 to 1,000 feet below land surface in the Prescott, Phoenix, and Tucson AMAs and 1,100 feet in the Pinal AMA. The rules do not establish a depth-to-water standard for the Santa Cruz AMA.

AWS Applications and Enforcement

The two means to demonstrate an AWS are the Certificate of Assured Water Supply

("Certificate") and the Designation of Assured Water Supply ("Designation"). Certificate and Designation Applications have many of the same requirements. Regardless of what type of application you will be submitting, it will be helpful to read both *Assured Water Supply Regulations for Subdivisions* (page 5) and *Assured Water Supply Regulations for Water Providers* (page 8).

New subdivisions inside AMAs are required by the 1980 Groundwater Code to have a Certificate of AWS for the subdivision unless they obtain a written commitment of service from a water provider, which has been designated as having an AWS.

A Designation means that the water company has a water supply sufficient to serve their current, committed and future demand for 100 years and have met all the other AWS criteria listed on page 2. A subdivision that will receive water from a water provider designated as having an AWS need not obtain a Certificate. Water companies are not required to apply for a Designation.

Definition of a Subdivision

A subdivision is defined in real estate law (A.R.S. § 32-2101) as land divided into six or more parcels with at least one parcel (or lot) having an area of less than 36 acres. All subdivisions, including those for residential, commercial or industrial uses are subject to the AWS requirements. Land divisions that create parcels all of which are larger than 36 acres are classified as "unsubdivided" lands and do not require an AWS determination. Owners of unsubdivided land may obtain a water availability report prior to offering the parcels for sale. Requests for water availability reports should be made to the Hydrology Division of ADWR. Another notable exception to the AWS requirements is apartment complexes, which are typically constructed on a single large parcel of land.

Enforcement

The AWS requirement is enforced through the review of subdivision plats by local platting entities. Within AMAs, plats cannot be approved without demonstrating an AWS. In addition, the Arizona Department of Real Estate cannot issue a public report and authorize the sale or lease of subdivided land in an AMA without an AWS determination.

When Is a Certificate Necessary?

A Certificate of AWS must be applied for when land is subdivided if it is not served by a designated water provider. Certificates are issued based on the subdivision's plat and in the name of the property owner. The Certificate is valid only for that owner and that plat.

If a designated water provider serves the area, the developer must obtain a written commitment of service from that provider. The written commitment of service is presented to the platting entity, and must be noted on the subdivision plat. An application to ADWR is not required.

A Certificate of AWS must be applied for when land is subdivided if it is not served by a Designated Water Provider.

To acquire a Certificate for a proposed subdivision, the property owner must file an application with ADWR. If the application is found to meet the AWS criteria, public notice is posted for two consecutive weeks in a local newspaper. A fifteen day protest period follows. If no protests are received, a Certificate is issued. A typical application is processed in about three to four months.

Changes of Ownership (A.A.C. R12-15-708)

Certificates of AWS are issued in the name of the owner of the development. If the ownership changes after the Certificate has been issued, steps must be taken which ensure that the subdivision maintains its AWS determination. When ownership is changed, if the Department is notified within 90 days of the transaction, then the new owner is eligible to apply for a new Certificate under most of the standards in place when the original Certificate was issued. If the new owner files a complete and correct Certificate of AWS application, and there are no protests to public notice, then a new Certificate of AWS is issued in the new owner's name.

Exemption from AWS Requirements (A.A.C. R12-15-702.I.)

For cases involving the proposed sale of six or more lots in a pre-existing subdivision, an AWS determination is required before the Department of Real Estate will authorize the sale of those lots. An exemption may apply if the lots in a subdivision were platted prior to 1980 or if a Certificate of AWS has been previously issued. However, under A.A.C. R12-15-702.I., the exemption only applies if:

1) the subdivision plat has not been modified since February 1995; and
2) water service is currently available to each lot.

Requests for an exemption to the AWS requirements can be submitted to the Office of AWS along with the following documentation:

1) A copy of the subdivision plat showing the pre-1980 recordation date ***OR*** a copy of the Certificate of AWS
2) A statement from the water provider that water service is currently available to each subdivision lot
3) A statement from the subdivision owner that the plat has not changed since February 7, 1995

After review, the Department issues a letter of exemption if the applicable legal requirements are met.

Types of Applications

In addition to applications for Certificates and Designations of Assured Water Supply, there are other types of AWS demonstrations that are available to developers or water companies depending on their particular circumstances. Table 1 lists each type of application, its purpose, and the corresponding fee. For specific information on fees refer to section A.A.C. R12-15-714 of the AWS Rules.

Some types of applications can be used as preliminary steps in the Designation or Certificate process. For example, an Analysis of AWS can be obtained prior to the Certificate application for the purposes of pre-reviewing a master planned area that is not yet platted. If the Analysis of AWS is granted, it can be cited upon submittal of a Certificate application or multiple Certificate applications if the conditions remain the same. In this manner, the Certificate process can be expedited. Groundwater shown to be physically available as part of an Analysis of AWS is considered when making other AWS determinations for 10 years following the application date.

Some types of applications can be used as preliminary steps in the Designation or Certificate process.

Appendix B provides an overview of the AWS application process and how it fits into the plat approval and public report processes.

Table 1
Application Types

Application	Fee	Description
Certificate of AWS	$250 to $1,000	To demonstrate an AWS for subdivided land not served by a designated water provider. A preliminary plat and estimated water demands are required as part of the application.
Designation of AWS	$500 to $10,000	To demonstrate an AWS for an entire water service area so subdividers within boundaries do not have to show separately an AWS.
Designation of AWS Modification	$500	To change an existing Designation to prove additional water supplies, change in demand projections, etc.
Analysis of AWS	$1,000	For unsubdivided, master planned communities. Allows developer to obtain a pre-review of AWS. Those criteria that are met at the time of the Analysis may be used toward the Certificate demonstration if conditions are unchanged.
Physical Availability Demonstration	$1,000	Allows a provider or land developer to submit evidence of physical availability and water quality in a certain area. Subdividers can then use this demonstration when applying for a Certificate of AWS.

Assured Water Supply Regulations for Subdivisions

In the application for a Certificate of AWS, information must be provided regarding all five AWS criteria. This includes information on the 1) proposed water demands and supplies for the subdivision, 2) water quality, 3) evidence of consistency with the management goal for the AMA, 4) evidence of consistency with the management plan, and 5) financial capability. (For further details, refer to the Certificate application and associated guidelines or the AWS Rules. Rule citations are listed for each criterion).

The process that water providers follow to become designated is discussed under *Assured Water Supply Regulations for Water Providers*, (page 8).

Physical, Legal and Continuous Availability (A.A.C. R12-15-703)

The applicant must describe the sources of water to be served to the subdivision. This involves demonstrating the actual water availability and the existence of a delivery system.

Water must be physically and continuously available to the subdivision to meet its demand for at least 100 years. This is typically demonstrated through a hydrologic study that must be submitted with the application, unless a valid study has already been submitted and approved by the Department. To show that supplies will be continuously available, adequate delivery, storage, and treatment works must also exist or be financed. Evidence of a legal right to the water supply or supplies is also required.

In attempting to lessen dependence on groundwater, the AWS Rules provide restrictions on the amount of groundwater that can be pumped. This makes other water sources integral to an assured supply demonstration. These sources include surface water, effluent, storage credits from a recharge project, or a water exchange. The specific regulations associated with each water source are addressed below.

Groundwater

If the proposed source of water is groundwater, a hydrologic study of the affected area must be submitted with the application unless previously submitted. Groundwater is considered physically available only if certain depth-to-static water level standards, measured in feet below land surface (bls), are not exceeded in 100 years as follows:

Table 2
Depth-to-Static Water Level Standards

Area	Feet Below Land Surface
Phoenix AMA	1,000 feet bls
Tucson AMA	1,000 feet bls
Prescott AMA	1,000 feet bls
Pinal AMA	1,100 feet bls
Dry lot subdivisions	400 feet bls

Surface Water/CAP

If the applicant has a long-term, municipal and industrial CAP subcontract or a lease of sufficient term, the entire amount of the subcontract is considered to be physically available. For other CAP, Colorado River water, and surface water sources, only a certain “reliable” percentage of the amount in the contract, right or lease can be considered unless a backup supply of water has been demonstrated. A drought response plan, recharge credits, or membership in the Central Arizona Groundwater Replenishment District may demonstrate a backup supply.

The applicant must also show that there is legal availability of the proposed supplies and that there are adequate storage facilities for surface water and CAP water during periods of shortage due to drought or system repairs.

Effluent

If effluent will be used directly, the applicant must include an evaluation of the annual volume that will be continuously available and show that its use will comply with ADEQ water quality requirements. Evidence must also be shown that the applicant has the legal right to use, capture and reuse the effluent and that there is an actual demand for the water.

Since effluent can only be used for certain purposes and cannot be commingled with the potable water supply, the amount of effluent that can be pledged toward the AWS is determined by the current demand. If it can be proven that future demand will use effluent, that amount may also be considered.

Long Term Storage Credits

Evidence of credits already accrued must be shown. If credits are anticipated, then it must be shown that the applicant is the permit holder, that there is an existing permitted storage project available (or that construction is imminent), and that a contract for water to be stored exists. Additionally, the applicant must demonstrate the physical, continuous and legal availability of the water to be stored.

In any case, storage credits do not, on their own, establish physical availability. Storage credits are a part of a legal right to withdraw water, but there must be separate evidence that the water is physically available. This is true unless the credits are withdrawn from inside the area of impact of the recharge facility. A hydrologic study that establishes physical availability must be included with the application if credits are to be withdrawn outside the area of impact.

Water Exchange Agreements

In the case of water exchange agreements, the applicant must show physical and continuous availability according to the actual source of water used, as discussed above. Legal availability is satisfied through evidence that the agreement meets the requirements of A.R.S. Title 45 Article 8.1.

Legal Availability

The Certificate application also requires that a legally recognized water provider be committed to supply service to the development from its existing distribution system. If the subdivision is to be served by a private water company, the proposed subdivision must be within the area described in the company's Certificate of Convenience and Necessity (CCN). If a system does not presently serve the area, two options exist:

a) a new water company or co-op may be established in accordance with the applicable Arizona Corporation Commission (ACC), Arizona Department of Environmental Quality (ADEQ) and ADWR requirements; or

b) if the depth to water does not exceed 400 feet, the subdivision may be developed as a "dry lot subdivision" where the lot purchasers will drill individual domestic wells on each lot.

Water Quality (A.A.C. R12-15-704)

The applicant's proposed source(s) of water must satisfy existing state water quality standards as well as any other water quality standards applicable to the proposed use. The Department will consider the possible migration of poor quality water that may impact the applicant's source.

Consistency with Management Goal (A.A.C. R12-15-705)

The AWS rules require that entities seeking an AWS determination limit the use of mined groundwater through the use of alternative supplies.

All five AMAs have water management goals related to reduction in groundwater use. The AWS rules require that entities seeking an AWS determination limit the use of mined groundwater through the use of alternative supplies. Mined groundwater is groundwater that is used in excess of the groundwater allowance determined for each Certificate or Designation. This groundwater allowance is designed to allow for the "phasing in" of renewable supplies. Renewable supplies must meet any demand over the groundwater allowance.

Each AMA, except the Santa Cruz AMA, has its own formula to calculate the amount of mined groundwater that can be used when demonstrating an AWS. This is discussed further in *Groundwater Allocation and Management Goal Accounting* (page 10).

Although the applicant may meet the goal criterion through recharging a renewable supply outside of its service area and pumping groundwater within its service area, the groundwater must still be physically available.

AMA Management Goals

Each AMA has its own management goal addressing its specific needs.

Phoenix and Tucson AMAs

The Phoenix and Tucson AMAs have management goals that require achievement of safe-yield conditions by 2025. In these AMAs, users for which an AWS is obtained will be restricted to a limited allocation of mined groundwater over the next 100 years.

The mined groundwater allocation is composed of a basic groundwater allocation, and any extinguished grandfathered groundwater rights. Any water demand above this groundwater allocation must be met with renewable supplies.

Pinal AMA

The Pinal AMA has a less restrictive goal, which is intended to allow for long term agricultural production. Thus, the AMA's basic mined groundwater formula allocates more groundwater than the Phoenix or Tucson AMAs. In most cases, the formula will be based on 125 gallons per capita per day, although it could be substantially less depending on the entity providing water. Extinguishment credits also apply in the Pinal AMA.

Prescott AMA

When the AWS Rules were adopted in 1995, continued reliance on groundwater was deemed to meet "consistency with goal" criteria in the Prescott AMA until the area was declared to be no longer at safe-yield. In 1997, data indicated that groundwater was being pumped out faster than it was being replaced. Following further extensive data analysis and public comment, the Director of ADWR made the declaration on January 12, 1999 that the Prescott AMA is no longer at safe-yield. This declaration instituted AWS restrictions on new groundwater uses in the AMA similar to those in the Phoenix and Tucson AMAs.

Santa Cruz AMA

Created in 1994, Santa Cruz AMA is in the process of defining its goal and the rules will be amended in the future to establish its mined groundwater allocation.

Dry Lot Subdivisions

Dry lot subdivisions of 20 lots or less are exempt from the consistency with management goal requirement in all AMAs.

The Certificate applicant may demonstrate consistency with the management goal through any or all of the following methods:

Central Arizona Groundwater Replenishment District

In the Phoenix, Tucson, and Pinal AMAs, an applicant can enroll a subdivision as member land of the Central Arizona Groundwater Replenishment District (CAGRD). The CAGRD is a division of the Central Arizona Water Conservation District (CAWCD) which recharges renewable water supplies into AMA aquifers to replace "excess" groundwater used by its members.

If the applicant needs to apply for membership in the CAGRD to meet the consistency with management goal criteria, a contract must be executed and recorded before ADWR can finish processing the application. There is a filing fee to join, and owners of lots included on a Certificate of AWS will pay an annual assessment with their property taxes based on the amount of groundwater used. The developer is responsible for independently filing an application for CAGRD membership with CAWCD when the Certificate application is filed with ADWR.

Extinguishment Credits

An applicant may acquire sufficient "extinguishment" credits, which result from grandfathered groundwater rights that are permanently eliminated. In general, if the volume of the credits exceed the 100-year demand for water, no other methods, such as enrollment in the CAGRD, are necessary. The Rules contain specific credit calculation formulas for the extinguishment of Type 1, Type 2, and Irrigation Grandfathered Rights.

Exempt Sources of Water

The applicant may obtain groundwater that has been determined as exempt from the consistency with goal requirements. This includes water pumped from the waterlogged area in the southwest portion of the Phoenix AMA, and treated poor quality water if approved by ADWR and ADEQ.

Renewable Water Sources

An applicant can obtain sufficient renewable sources such as surface water, effluent, a CAP subcontract or CAP recharge credits. These supplies can be combined with other sources such as allowable groundwater use (e.g., extinguishment credits) to prove an AWS exists.

Consistency with Management Plan (A.A.C. R12-15-706)

If the development is designed so that it conforms to water conservation practices, it will be easier for the serving provider to meet its conservation requirements.

The applicant needs to estimate the amount of water use per lot and for any additional subdivision features such as golf courses, parks, lakes, common areas, schools, community centers, and commercial establishments. Demand estimates are evaluated in the context of water conservation guidelines.

The Third Management Plan requires that any new golf courses included within a development plan be designed to comply with the applicable turf-related facility conservation requirements in the plan. Copies of the Third Management Plan for each AMA are available in the ADWR Bookstore or online at http://www.water.gov.az.

If the subdivision is for more than 50 lots, a description of any proposed conservation measures needs to be provided. If the development is designed so that it conforms to water conservation practices, it will be easier for the serving provider to meet its conservation requirements as prescribed in the management plan for the AMA. The Department cannot deny a Certificate application solely on the basis that the demand will make it more difficult for the provider to comply with its conservation requirements. However, if the provider is already out of compliance with its conservation requirements, and the new subdivision would only exacerbate the provider's non-compliance, the Department does have the authority to deny the application.

Financial Capability (A.A.C. R12-15-707)

The applicant for a Certificate of AWS must demonstrate the financial capability to construct the delivery system and any treatment and storage works required for the proposed development. The rules allow the Department to accept evidence that the developer has or will provide financial assurances to the platting entity before the final plat is recorded. This is evidenced to the Department by submitting the Verification of Construction Assurance form signed by the appropriate platting entity. This form is included in the application. The developer's capacity to finance any features that are not included in the plat approval process, such as storage and treatment facilities, generally requires the facilities to have been built or the posting of a performance bond.

Fees (A.A.C. R12-15-714)

Application fees for a Certificate range from $250 to $1,000, depending on the number of lots. Discounts apply if the applicant is joining the CAGRD or if a hydrologic study was previously submitted for the area. These fees must be paid to the ADWR at the time the application is submitted.

Assured Water Supply Regulations for Water Providers

If a water company is designated as having an AWS, developers of individual subdivisions to be served by the water company are relieved of having to demonstrate independently an AWS.

Water providers that are not currently designated may apply anytime for a Designation. A list of designated providers is attached as Appendix C.

Designation Application Requirements

The same basic criteria that apply to Certificates also apply to water providers seeking a Designation. Important items that are unique to the Designation are addressed in the following sections.

Physical, Legal, Continuous Availability (A.A.C. R12-15-703)

Demand and supply information must be provided for the entire service area. The water must be physically and continuously available to the water provider in amounts sufficient to meet current and committed demand, plus a minimum of two years of projected demand for at least 100 years. The water provider must have a legal right to all water to be served. If the provider is not a city or town, applicable Arizona Corporation Commission approvals must exist.

Water Quality (A.A.C. R12-15-704)

The water provider must be in compliance with all applicable water quality standards. Designated providers must continue to satisfy all applicable state water quality requirements in order to maintain their Designation.

Consistency with Management Goal (A.A.C. R12-15-705)

Consistency with the management goal can be demonstrated through utilization of CAP or other surface water, effluent, recharge credits, extinguished grandfathered water rights, water exchange agreements, or membership in the CAGRD. If the water provider meets consistency with the management goal requirement through membership in the CAGRD, the entire service area must be enrolled. The provider will pay an annual assessment to the CAGRD based on the amount of mined groundwater pumped for the entire service area.

If the water provider meets the consistency with the management goal requirement through membership in the CAGRD, the service area must be enrolled as a member service

Consistency with Management Plan (A.A.C. R12-15-706)

Existing water providers can show consistency with the management plan if they are in compliance with their conservation requirements. If the provider is out of compliance, the violation must be remedied by entering into a stipulated agreement with the Department.

New water providers must describe the measures that will be implemented to meet the Department's conservation requirements.

Financial Capability (A.A.C. R12-15-707)

To demonstrate financial capability for storage and treatment facilities, private water companies can show Arizona Corporation Commission approval of financing as evidence. Cities and towns can present evidence that financing is available through a five-year capital improvement plan containing these facilities.

Fees (A.A.C. R12-15-708)

Application fees for a Designation of AWS range from $500 to $10,000 depending on the amount of water demand. These must be paid to ADWR at the time the application is submitted.

Example Water Management Scenario

An example of how a provider's water supply might be managed to meet demand over the 100-year demonstration period is shown on the following page in Figure 2.

As shown, the provider is projecting use of its mined groundwater allocation at equal annual volumes throughout the 100-year period. In 2025 it adds additional renewable supplies to its

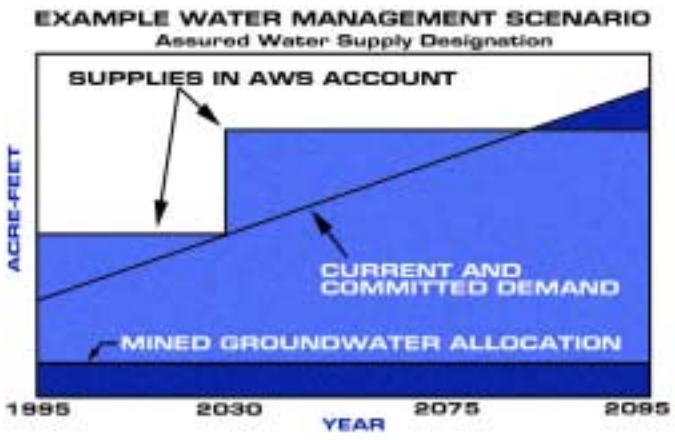


Figure 2

AWS account to meet growing demand. The approved water supplies for 100 years must meet or exceed demand. In this example, the Designation would end in the year 2075, and growth would stop unless additional supplies were obtained.

Groundwater Allocation and Management Goal Accounting

Assured Water Supply applicants are allowed to utilize a certain volume of groundwater to allow for the "phasing in" of renewable supplies. This volume is calculated differently depending on the type of application and the AMA. Each AMA's groundwater allocation and goal are discussed in *Assured Water Supply Regulations for Subdivisions, Consistency with Management Goal* (A.A.C. R12-15-705), (page 6) and *Assured Water Supply Regulations for Water Providers, Consistency* with Management Goal (A.A.C. R12-15-705), (page 9).

The methods for calculating the allocation, how the groundwater allocation may be used, and the accounting mechanism to determine compliance with the consistency with the management goal criterion are explained below.

Calculating the Groundwater Allocation

The groundwater allocation can include three components: the basic mined groundwater allocation, the incidental recharge factor, and the extinguishment credits. Each of the following sections describes how to calculate these parts of the groundwater allocation. Groundwater used above the total of the mined groundwater allocation, the incidental recharge allocation and the extinguishment credits must be replenished.

Basic Allocation

Designation applications for existing water providers are allocated the 1994 demand (water usage) multiplied by 7.5 in the Phoenix AMA and by 15 in the Tucson AMA. For example, in the Phoenix AMA, if an existing water provider's 1994 water usage was 1,000 acre-feet, then 1,000 acre-feet x 7.5 would equal their basic groundwater allocation. If this volume were stretched out over the 100-year period, then 75 acre-feet per year would be the amount of groundwater that would not have to be replenished.

For Certificates, the build-out demand (expected within 15 years) is multiplied by the appropriate factor shown in Table 3.

Table 3
Groundwater Allocation for Certificates

Location of Proposed Development	Management Period (Date of Application)	Allocation Factor
Tucson	Third (2000-2010)	8
	Fourth (2010-2020)	4
	Fifth (2020-2025)	2
	After 2025	0
Phoenix	Third (2000-2010)	4
	Fourth (2010-2020)	2
	Fifth (2020-2025)	1
	After 2025	0

New water companies formed after February 7, 1995 that apply for a Designation of AWS do not receive a groundwater allocation.

Incidental Recharge Factor

Holders of Designations under the AWS rules (except those in the Prescott and Santa Cruz AMAs) annually receive an incidental recharge allocation based on 4 percent of the demand in the previous year. Designation applicants may also apply for a higher incidental recharge allocation factor if they can demonstrate that incidental recharge is higher than 4 percent in their service area. Certificate applicants are not eligible for an incidental recharge allocation.

Extinguishment Credits

Groundwater credits can also be accumulated through the extinguishment of grandfathered groundwater rights. The credit is based on a

calculation prescribed in the rules (A.A.C. R12-15-705 M-P). It varies depending on the AMA in which the right is extinguished, the type of right, and the year that the right is extinguished. Once extinguishment credits are pledged to a Certificate of AWS, they may not be conveyed. In the case of a change of ownership of the subdivision, the credits may be conveyed to the new owner of the subdivision. Extinguishment forms can be obtained from the Office of AWS or any AMA office.

Use of the Mined Groundwater Allocation

The mined groundwater allocation can be used at anytime during the 100-year period. It may be spread out over a period of years or the use may occur during a specific time period.

Consistency with Management Goal Accounting

To determine compliance with the consistency with the management goal requirement, the Department establishes an account for each holder of a Certificate or Designation, which includes the water supply and demand status of the holder. The account is updated annually and includes the volume of the mined groundwater allocation, including any extinguishment credits, the incidental recharge allocation as applicable, and approved renewable water supplies. As mined groundwater is used it will be subtracted from the account.

Wet Water v. Paper Water

The process of calculating the basic allocation, the incidental recharge factor and extinguishment credits produces an amount of "paper water." It may be the case that an existing water provider is entitled to an amount of groundwater on paper that does not exist in the aquifer. It is important to remember that even though the applicant is entitled to a groundwater allocation, the physical availability of the water must still be proven.

Other AWS Provisions

There are other aspects to the AWS Program that deal with the review, modification, or revocation of a Designation or Certificate and the Annual Withdrawal and Use Report.

Modification or Revocation of a Designation or Certificate (A.A.C. R12-15-709)

The Department will review the AWS status of designated water providers at least every 15 years to determine whether the Designation should be modified or revoked. In addition, the holder of a Designation may request a modification of the Designation at anytime. For example, the provider may have obtained additional water supplies to satisfy its demand. If the Department finds that there is insufficient renewable water in the designated provider's account to meet the provider's current and committed demands and the demand added during the next two years, the Department will notify the provider and review the provider's AWS status.

If an AWS no longer exists after a Certificate or Designation is issued, the Department may revoke the Certificate or Designation. Revocation may occur if the designated provider is out of compliance with the management plan, if the holder fails to meet its replenishment obligation, or if the holder fails to construct necessary treatment facilities or storage works. A Certificate of AWS cannot be revoked if any of the residential lots within the plat have been sold.

If the Department determines that a Designation or Certificate should be revoked, there is a formal notice, hearing, and review process (A.A.C. R12-15-710).

Standards for Designation of AWS Modification

While a designated provider may apply to modify its designation at any time, there are some guidelines to follow when considering modification. Designations need to be modified if the provider has made considerable changes to its operating plan from what was submitted to the Department. Changes that would necessitate a modification include any action that reduces the amount of supplies available to the provider, and any action that increases the provider's current or committed demand beyond what was anticipated when the designation was issued. Acquisition of new supplies requires a modification if the provider needs the additional supplies to cover current and committed demand. Otherwise, the Department recommends that

designated providers consider waiting to modify the designation until the amount of new supplies is at least 10% of the total supplies available to the provider.

Changes that on their own do not rise to the level of requiring a modification include accrual of long-term storage credits, obtaining AWS extinguishment credits, or expanding an existing water treatment plant. The Department should be made aware of delivery or treatment system expansions, but a full modification is most likely not necessary. However, it is possible that a combination of changes may necessitate modifying a designation. The Department is always available for consultation if questions on the status of a designation arise.

Annual Reports (A.A.C. R12-15-711)

Designated water providers must include additional water demand and supply information in their Annual Water Withdrawal and Use Reports. This includes information on new customer demand, a water quality report and depth to static water level from service area wells.

The CAGRD also requires submittal of annual reports by designated providers who are member service areas. They must report the total water delivered to all customers and the total amount of "excess" groundwater.

Undesignated providers must also submit water use information for the "member lands" within their service area, (i.e., subdivisions with Certificates that demonstrated consistency with the management goal through membership in the CAGRD). This information includes the amount of water delivered to each member parcel, the amount of excess groundwater delivered to the member land and the replenishment obligation of each parcel of the member land.

For further information on the Assured Water Supply program and associated topics, please check the list of other information sources in Appendix D.

Appendix A--Abbreviations and Definitions

Abbreviations

AAC	Arizona Administrative Code
ACC	Arizona Corporation Commission
ADEQ	Arizona Department of Environmental Quality
ADWR	Arizona Department of Water Resources
af	Acre-feet, equal to 325,851 gallons
AMA	Active Management Area
ARS	Arizona Revised Statutes
AWS	Assured Water Supply
bls	below land surface
CAGRD	Central Arizona Groundwater Replenishment District
CAP	Central Arizona Project
CAWCD	Central Arizona Water Conservation District
CCN	Certificate of Convenience and Necessity

Definitions

Aquifer - A geologic formation that contains sufficient saturated materials to be capable of storing water and transmitting water in usable quantities to a well.

Artificial Recharge – The percolation of water into an aquifer as a result of a managed or constructed recharge facility

Committed Demand – The estimated demand of all recorded lots within the boundaries of the area being evaluated for physical availability which are not yet serve water.

Effluent - Water that has been collected in a sanitary sewer for subsequent treatment in a facility that is regulated pursuant to A.R.S. §§49-361 and 362. Such water remains effluent until it acquires the characteristics of groundwater or surface water.

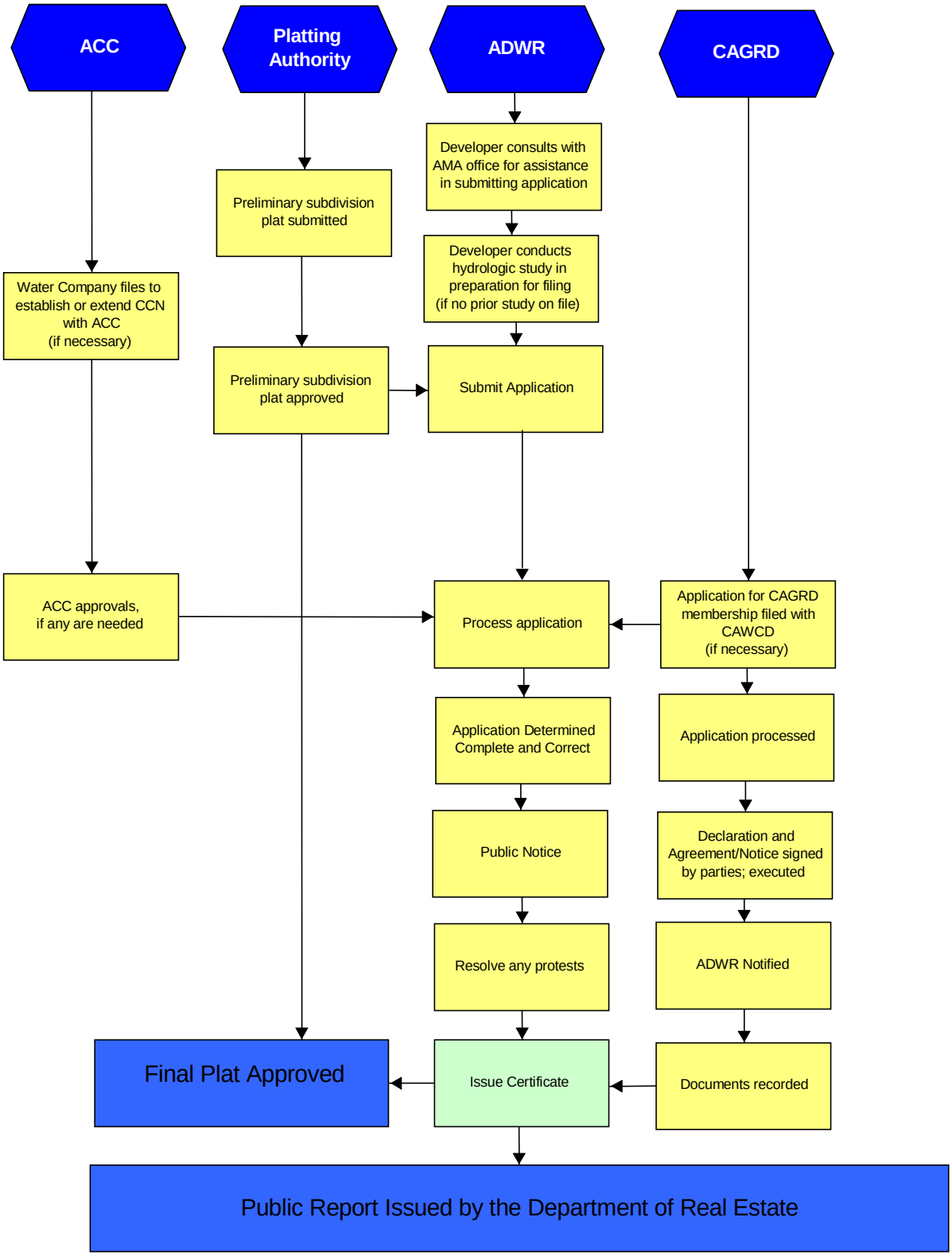
Excess groundwater – Any groundwater pumped by a member of the CAGRD in excess of their allowable groundwater account.

Incidental Recharge - The percolation of water to an aquifer after the water has been withdrawn, diverted or received for delivery by a municipal provider for use within its service area, except water that is added to any aquifer pursuant to Chapter 3.1 of Title 45, Arizona Revised Statutes, which regulates artificial recharge.

Natural Recharge – The percolation of water into an aquifer as a result of rainfall or other naturally occurring water source

Safe-yield - A groundwater management goal which attempts to achieve and thereafter maintain a long-term balance between the annual amount of groundwater withdrawn in an active management area and the annual amount of natural and artificial groundwater recharge in the active management area.

Appendix B--Certificates of Assured Water Supply and the Plat Approval Process



Appendix C--Designated Water Providers as of January 1, 2001

Phoenix AMA
City of Avondale
City of Chandler
City of El Mirage
Town of Gilbert
City of Glendale
City of Goodyear
City of Mesa
City of Peoria
City of Phoenix
City of Scottsdale
City of Surprise
City of Tempe
Chaparral City Water Company – Fountain Hills
Johnson Utilities, Inc.
Water Utilities Community Facility District, d.b.a. “Apache Junction Water Company”
Pinal AMA
City of Eloy
Santa Cruz Water Company
Town of Florence
Prescott AMA
City of Prescott
Tucson AMA
City of Tucson
Metropolitan Domestic Water Improvement District
Rancho Sahuarita Water Company
Spanish Trail Water Company
Town of Marana
Town of Oro Valley
Vail Water Company (formerly Del Lago Water Company)
Santa Cruz AMA
City of Nogales

Appendix D--Organizations to Contact for More Information

Assured Water Supply Program Administration, Applications and Information

Arizona Department of Water Resources
http://www.water.az.gov

Office of Assured Water Supply	(602) 417-2465

Local Offices:

Phoenix AMA	(602) 417-2465
Pinal AMA	(520) 836-4857
Prescott AMA	(520) 778-7202
Santa Cruz AMA	(520) 761-1814
Tucson AMA	(520) 770-3800

Hydrologic studies:

Hydrology Division	(602) 417-2448

Central Arizona Groundwater Replenishment District (CAGRD)
http://www.cap-az.com/operations/cagrd/cagrd/

(623) 869-2333

Central Arizona Water Conservation District (CAWCD)
http://www.cap-az.com

(623) 869-2333

Water Quality and Water System Requirements--Arizona Department of Environmental Quality
http://www.adeq.state.az.us

Phoenix	(602) 207-2305
Tucson	(520) 628-6733

Starting a New Water Company, Obtaining a CC&N--Arizona Corporation Commission
http://www.cc.state.az.us

Phoenix	(602) 542-4251
Tucson	(520) 628-6550

Subdivision Requirements, Public Report--Arizona Department of Real Estate
http://www.re.state.az.us

Phoenix	(602) 468-1414
Tucson	(520) 628-6940

Platting, Zoning, and Development Requirements; Financial Demonstrations

Contact your local Planning and Zoning Department